

Contributors to This Issue

John R. Cavanaugh, B.S. (Electrical Engineering), 1961, Ohio University; M.S. (Electrical Engineering), 1963, New York University; Bell Laboratories 1961—. Mr. Cavanaugh has worked on determining acceptable picture quality standards for broadcast television transmission. He is currently a member of the Network Objectives Department working on subjective evaluations of digital telephone systems. Member, Phi Kappa Phi, Tau Beta Pi, Eta Kappa Nu.

Leonard G. Cohen, B.E.E., 1962, City College of New York; Sc.M., 1964, and Ph.D. (Engineering), 1968, Brown University; Bell Laboratories, 1968—. At Brown University, Mr. Cohen was engaged in research on plasma dynamics. At Bell Laboratories, he has concentrated on optical fiber transmission studies. Member, Sigma Xi, Tau Beta Pi, Eta Kappa Nu, Optical Society of America; senior member, IEEE.

Ta-Shing Chu, B.S., 1955, National Taiwan University; M.S., 1957, and Ph.D., 1960, Ohio State University; Research Associate, Courant Institute of Mathematical Sciences, New York University, 1961-1963; Bell Laboratories, 1963—. Mr. Chu has been engaged in research on microwave antennas and wave propagation for satellite communication and terrestrial radio systems. His work includes surface wave diffraction, precision gain standard, propagation through precipitation, dual-polarization radio transmission, and the Crawford Hill 7-meter offset Cassegrainian antenna. Fellow, IEEE; member, International Scientific Radio Union, Sigma Xi, Pi Mu Epsilon.

R. W. Dixon, A.B., 1958, M.A., 1960, Ph.D., 1964, Harvard University; Bell Laboratories, 1965—. Upon joining Bell Laboratories, Mr. Dixon became concerned with the interaction of light and elastic waves in solids and liquids. He subsequently worked on the development of semiconductor light-emitting diode devices. From 1973 to 1979, he was

supervisor of semiconductor lightwave lasers with responsibility for the device aspects of gallium arsenide communications laser development. He has been head of the Optoelectronic Devices Department since 1979.

A. A. Fredericks, B.S. (Math.) 1962, Fairleigh Dickinson University; M.S., 1965, Ph.D. (Math), 1970, Courant Institute, N.Y. University; Bell Laboratories, 1961—. Mr. Fredericks worked in the military systems area until 1970. More recently he has worked on performance analyses of stored program control switching systems. As supervisor of the information systems group in the Network Performance Planning Center, he is presently responsible for performance analyses of mini-computer-based operations support systems.

Herbert T. Freedman, B.A., 1972, University of Pennsylvania; M.S., 1974, Case Western Reserve University; Ph.D., 1976, University of Pennsylvania; Bell Laboratories, 1976-1979. At Bell Laboratories, Mr. Freedman was engaged in developing loop network cost models and methods systems. He is currently with the Corporate Planning Division of the American Telephone and Telegraph Company, developing manpower and expense models.

William G. French, B.A., 1965, University of California, Riverside; Ph.D., 1969, University of Wisconsin; Bell Laboratories, 1969-1979; The 3M Company, 1979. While at Bell Laboratories, Mr. French worked on fundamental studies of glass as well as glass purification techniques and the development of low loss optical fiber materials. He was also concerned with vapor deposition methods for the fabrication of low loss fibers with low dispersion characteristics. Member, Optical Society of America, American Chemical Society, and American Ceramic Society.

Richard W. Hatch, B.S. (Electrical Engineering), 1952, Northeastern University; M.S. (Mathematics) 1958, Stevens Institute of Technology; Bell Laboratories, 1952—. Mr. Hatch worked for several years on the design of microwave radio relay systems and in 1961 and 1962 supervised groups working on the ground transmitter, systems analysis, and communications tests for the Telstar satellite. In 1962, he became head of a department engaged in transmission systems engineering studies of network performance and maintenance. He currently heads a department responsible for studies of customer opinion and network

performance leading to recommendations concerning network performance objectives. Member, Tau Beta Pi, Eta Kappa Nu.

Harry Heffes, B.E.E., 1962, City College of New York; M.E.E., 1964, and Ph.D., 1968, New York University; Bell Laboratories, 1962—. Mr. Heffes has previously worked in the areas of control and filtering theory. More recently, he has been concerned with modeling and analysis of teletraffic systems. He is currently Adjunct Associate Professor of Electrical Engineering and Computer Science at Stevens Institute of Technology. Member, Tau Beta Pi, Eta Kappa Nu, American Men of Science, ORSA.

William J. Infosino, B.A. (Mathematics), 1969, Queens College; M.S. (Operations Research), 1972, New York University; Bell Laboratories, 1972—. Mr. Infosino has worked on the implementation of measured service for local telephone calls. He has studied the demand for local calls, related that demand to socioeconomic variables, and modeled customer choices and revenues when several billing options are offered. Member, Phi Beta Kappa.

William B. Joyce, B. Eng. Phys., 1955, Cornell University; Ph.D. (Phys.), 1966, Ohio State University; Bell Laboratories, 1966—. Mr. Joyce is currently working on semiconductor-laser development. Member, American Physical Society, History of Science Society.

Chinlon Lin, B.S.(E.E.) 1967, National Taiwan University; M.S., 1970, University of Illinois; Ph.D., 1973, University of California at Berkeley; Bell Laboratories, 1974—. At Berkeley, Mr. Lin was a recipient of an IBM Fellowship and a Lankersheim Scholarship as well as being a research assistant in the Electronics Research Laboratory. At Bell Laboratories, he has been working on quantum electronics and optical communications research. Senior member, IEEE; member, Optical Society of America.

Sing-Hsiung Lin, B.S.E.E., 1963, National Taiwan University; M.S.E.E., 1966, and Ph.D., 1969, University of California, Berkeley; Bell Laboratories, 1969—. Mr. Lin is supervisor of the Digital Network Engineering Group. He developed and constructed the 11-GHz radio path engineering charts for 200 major U.S. locations which have been used widely by the Bell System operating companies and AT&T Long

Lines in the engineering of new radio routes. He has also been engaged in research on digital and analog transmissions in twisted wire pair cables. Member, IEEE, Sigma Xi.

Wanda L. Mammel, A.B. (Mathematics), 1943, Winthrop College; M.Sc. (Applied Mathematics), 1945, Brown University; Bell Laboratories, 1956—. Ms. Mammel is engaged in finding mathematical methods for the numerical solution of a variety of problems. In particular, she has applied linear programming techniques to problems of crystal plasticity. At present she is working on problems in microwave propagation and optical waveguides.

Scotty R. Neal, B.A. (Math.), 1961, M.A. (Math.), 1963, and Ph.D. (Math.), 1965, University of California, Riverside; Research Mathematician, Naval Weapons Center, China Lake, California, 1964-1967; Bell Laboratories 1967—. At the Naval Weapons Center, Mr. Neal worked on applications of optimal estimation theory. At Bell Laboratories, he has been responsible primarily for projects in the general area of traffic network engineering. He is currently supervisor of the Minicomputer and Operations Analysis Group.

James L. Neigh, B.S. (Electrical Engineering), 1973, University of Pittsburgh; M.Eng. (E.E.), 1974, Cornell University; Bell Laboratories, 1973—. Mr. Neigh has participated in several studies related to transmission planning for the introduction of digital technology in the local network. He currently has responsibility for digital transmission, synchronization, and signaling requirements in the Customer Switching Systems Area.

Davinder P. S. Sethi, B.Tech. (E.E.), 1969, I.I.T., New Delhi; Ph.D. (Operations Research), 1975, University of California, Berkeley; Bell Laboratories, 1976—. During 1976, Mr. Sethi was on the research faculty of UCLA. Since joining Bell Laboratories, he has developed mathematical models and methods systems for customer network operations.

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